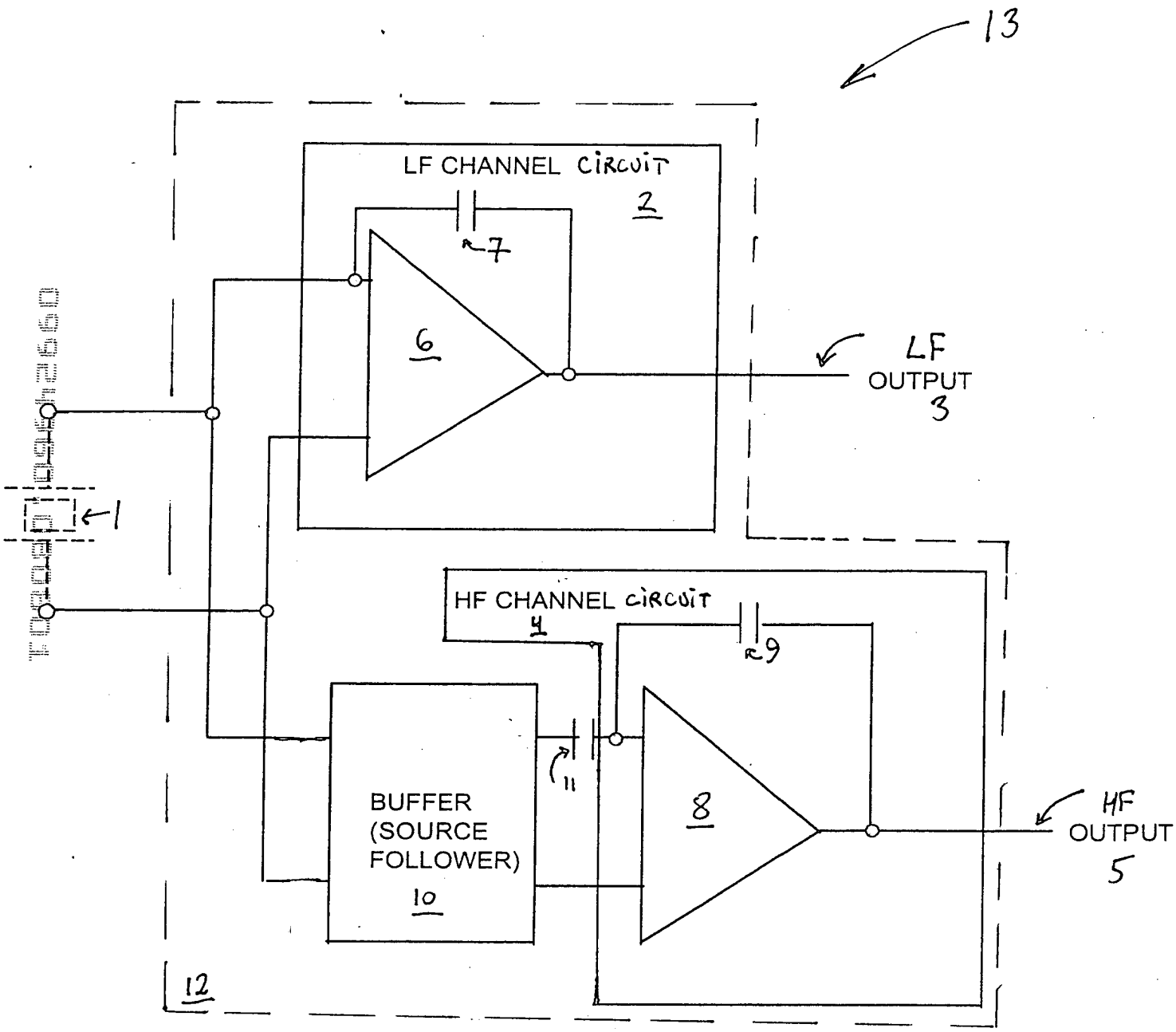
13
LF CHANNEL CIRCUIT
2
7
6
LF
OUTPUT
3
1
HF CHANNEL CIRCUIT
4
9
BUFFER
(SOURCE
FOLLOWER)
10
11
8
HF
OUTPUT
5
12

FIGURE 1

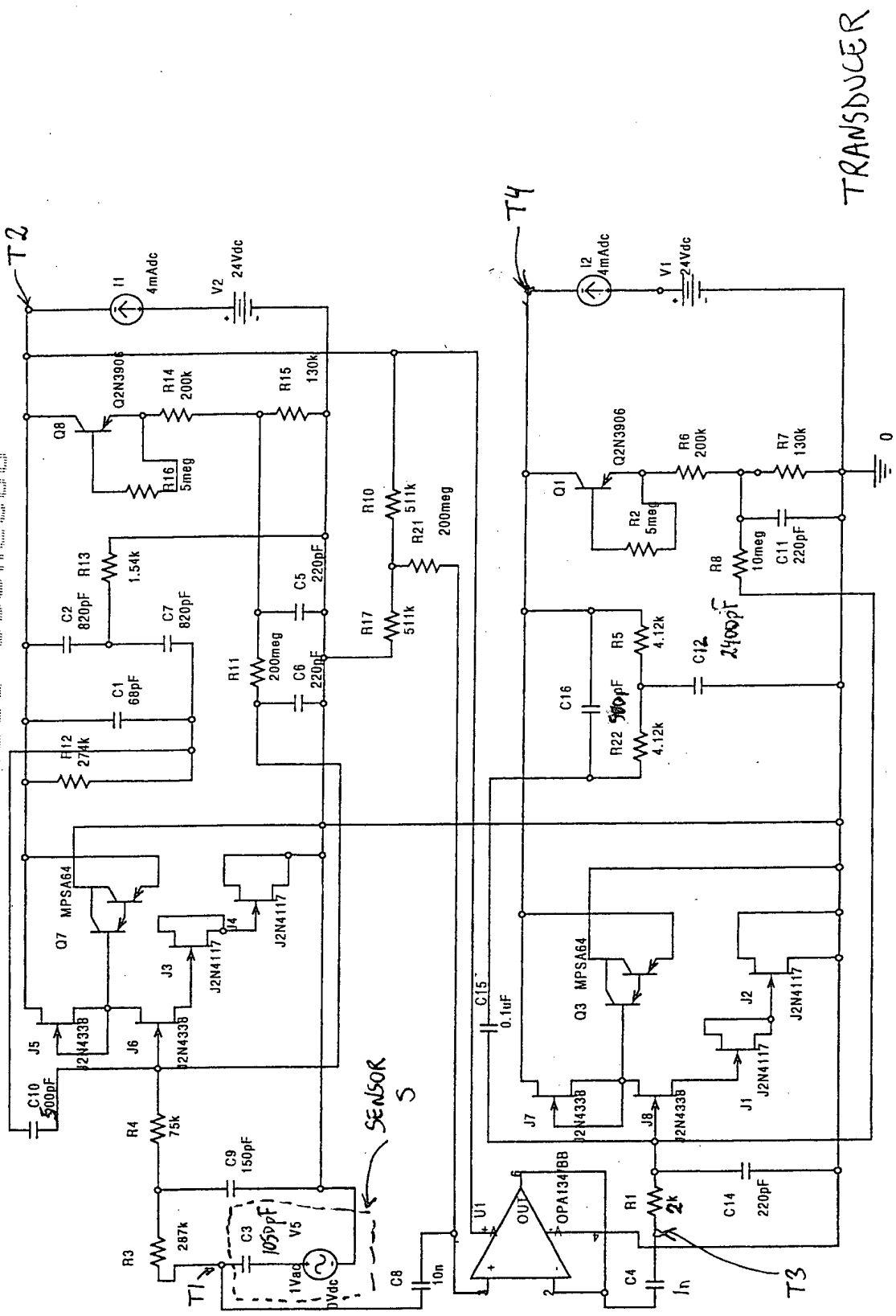
T2
T4
TRANSDUCER
13
I1
4mAdc
V2
24Vdc
I2
4mAdc
V1
24Vdc
Q2N3906
R14 200k
R15 130k
R16 5meg
Q8
R10 511k
R21 200meg
R13 1.54k
C2 820pF
C7 820pF
C5 220pF
R17 511k
C1 68pF
R11 200meg
C6 220pF
R12 274k
Q7 MPSA64
J2N4117
J3
J4
J5
J6
J2N4338
C10 500pF
R4 75k
C9 150pF
R3 287k
C3 105pF
V5
1Vac
0Vdc
T1
C8 10n
SENSOR
5
U1
OPA134BB
OUT
C15 0.1uF
Q3 MPSA64
J7
J8
J2
J1
R1 2k
C14 220pF
C4
In
T3
Q2N3906
R6 200k
R7 130k
Q1
R2 5meg
R8 10meg
C11 220pF
C16
R5 4.12k
C12 2400pF
R22 4.12k
0

Fig. 2

T88050 96t2660

G = 2

Vin = 1V

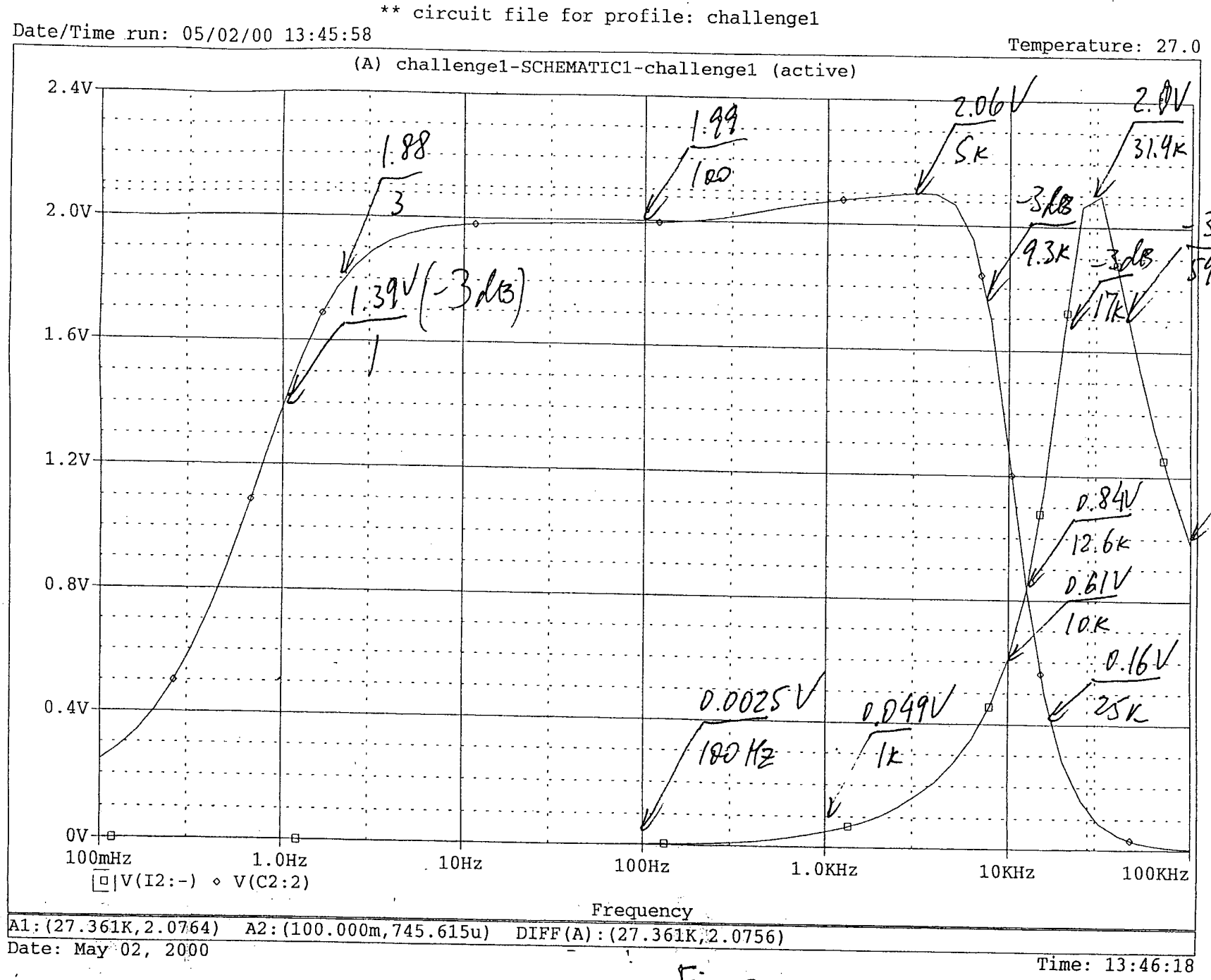

FIG. 3

Docket No.: 1575.2003-001
Title: HIGH AND LOW FREQUENCY...
Inventor: Felix A. Levinzon

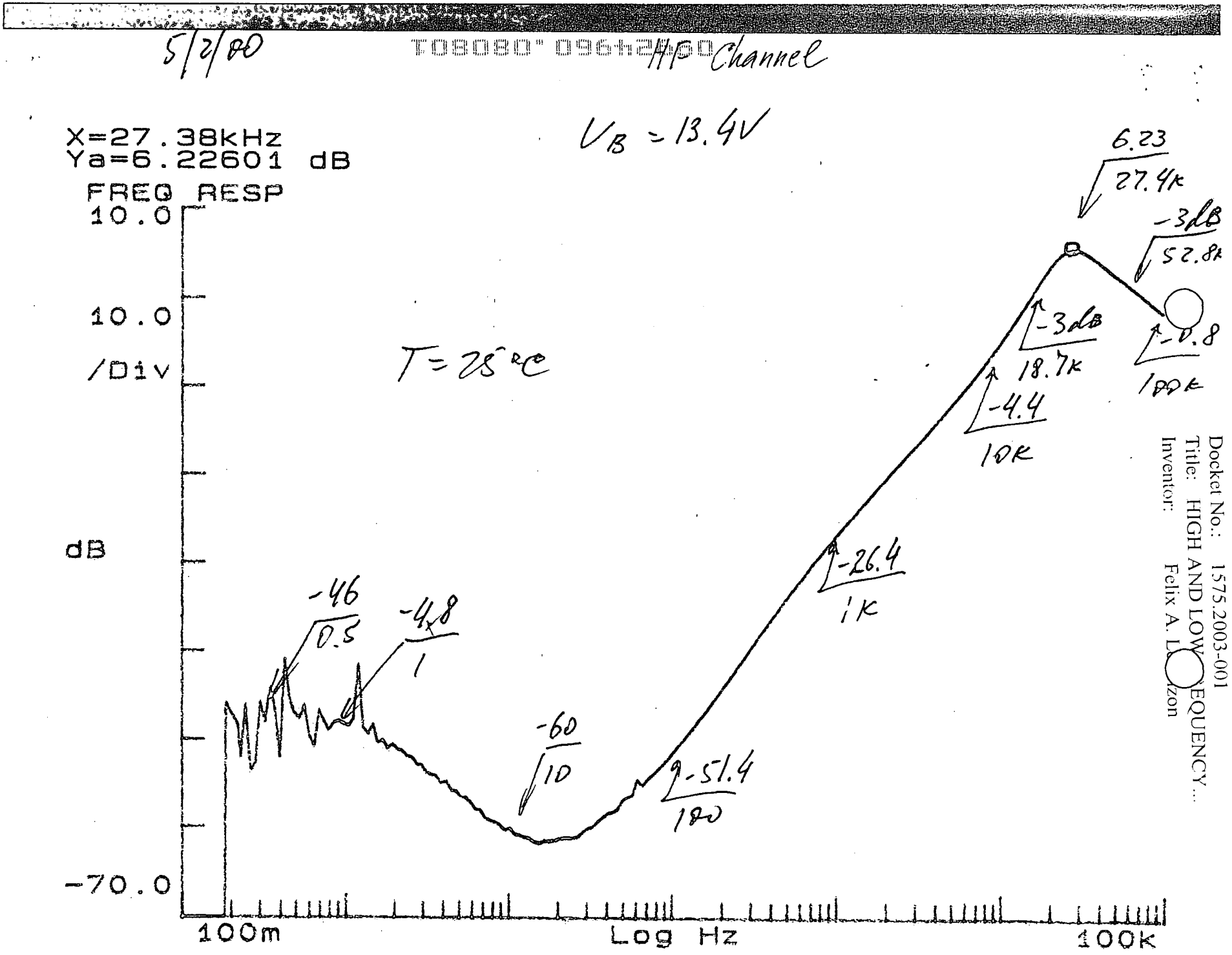

Fig. 4

Docket No.: 1575.2003-001
Title: HIGH AND LOW FREQUENCY...
Inventor: Felix A. Lizon

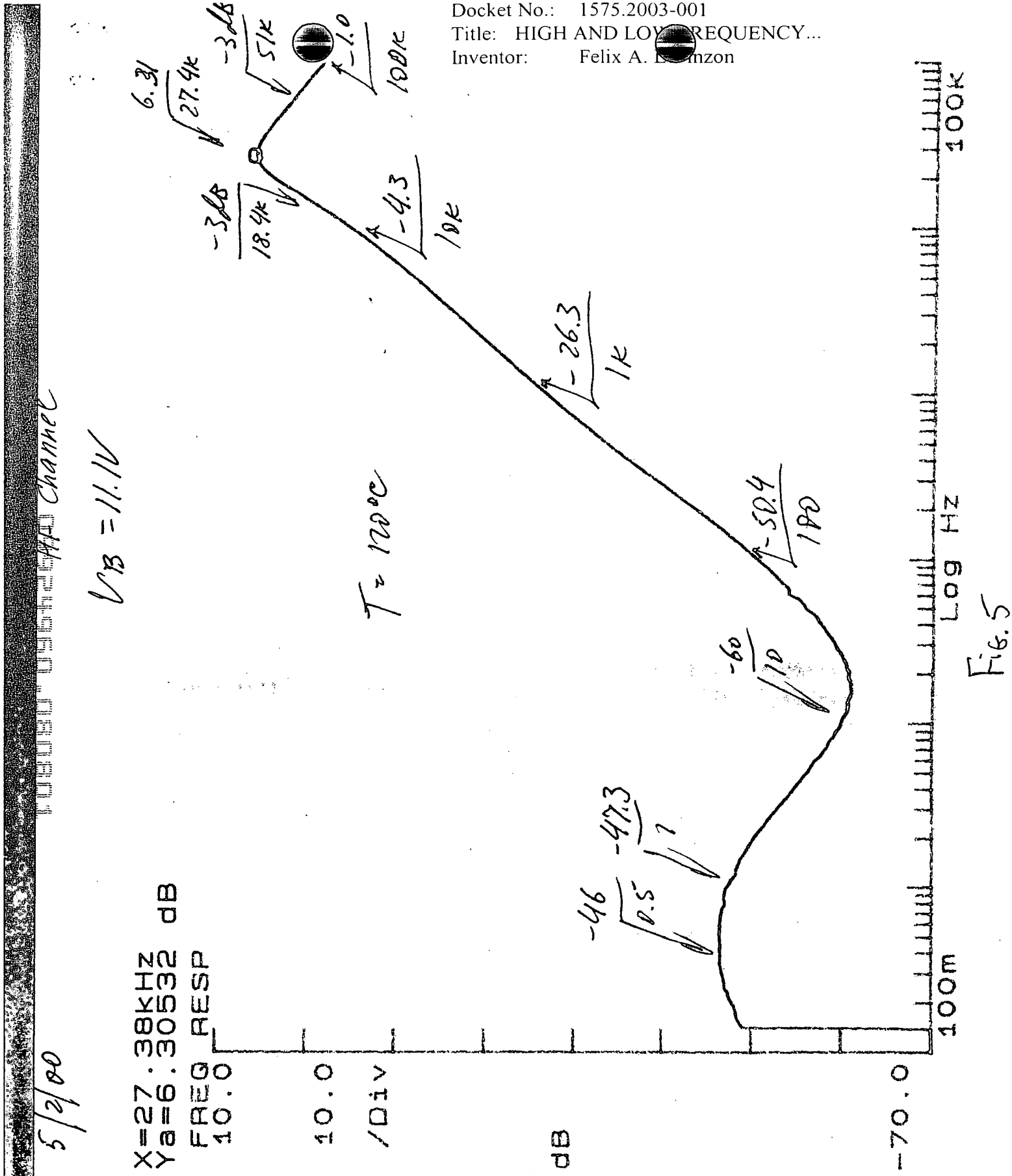
5/2/00
X=27.38KHz
Ya=6.30532 dB
FREQ RESP
10.0
10.0
10div
dB
-70.0
100m
Log Hz
100K
Unbiased Unbuffered Channel
VB = 11.1V
T = 120°C
6.3
27.4K
-3dB
51K
-1.0
100K
-3dB
18.4K
-4.3
10K
-26.3
1K
-50.4
100
-60
10
-46
0.5
-47.3
1

Fig. 5

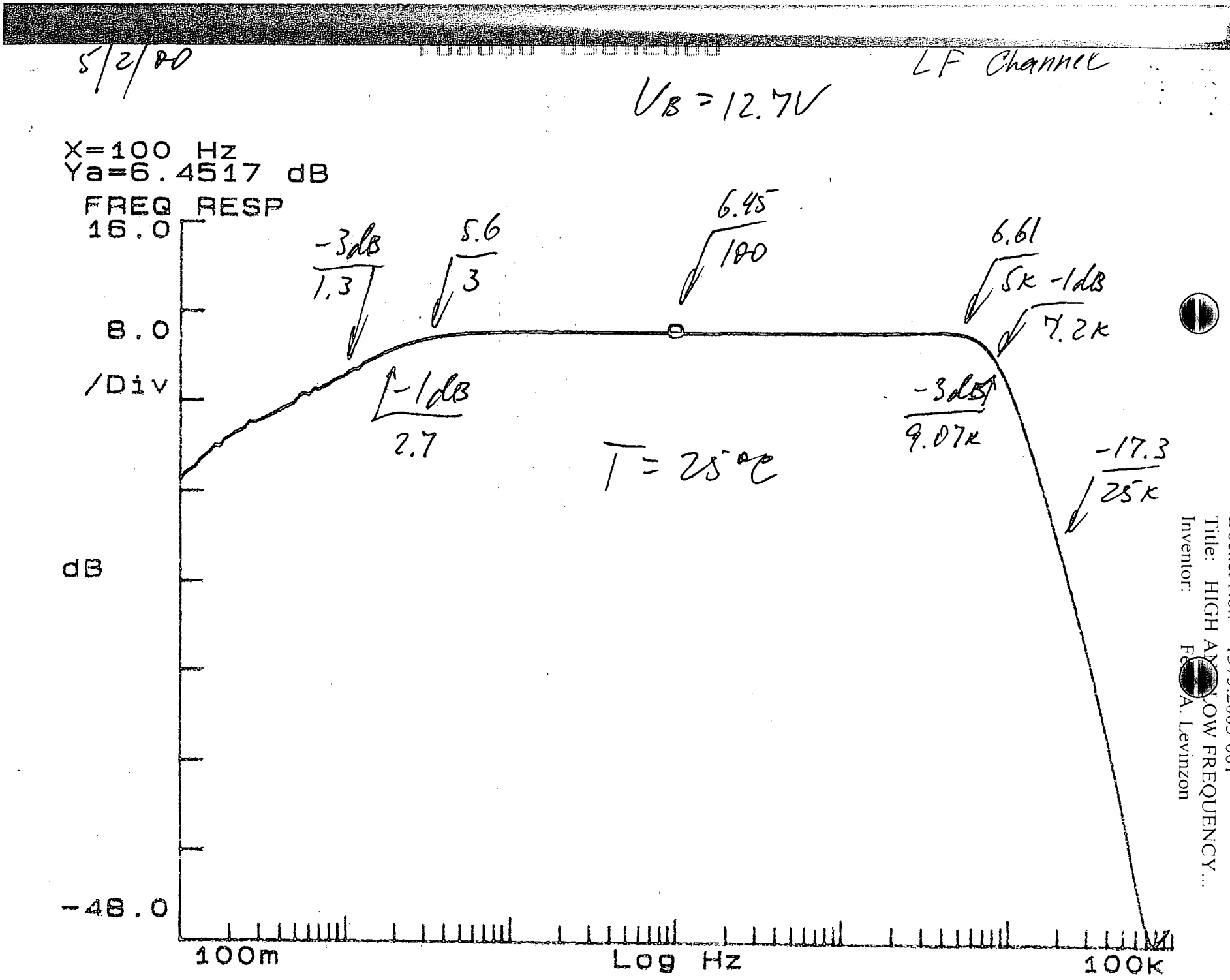

Fig. 6

Docket No.: 1575.2003-001
Title: HIGH AMPLITUDE LOW FREQUENCY...
Inventor: F... A. Levinzon

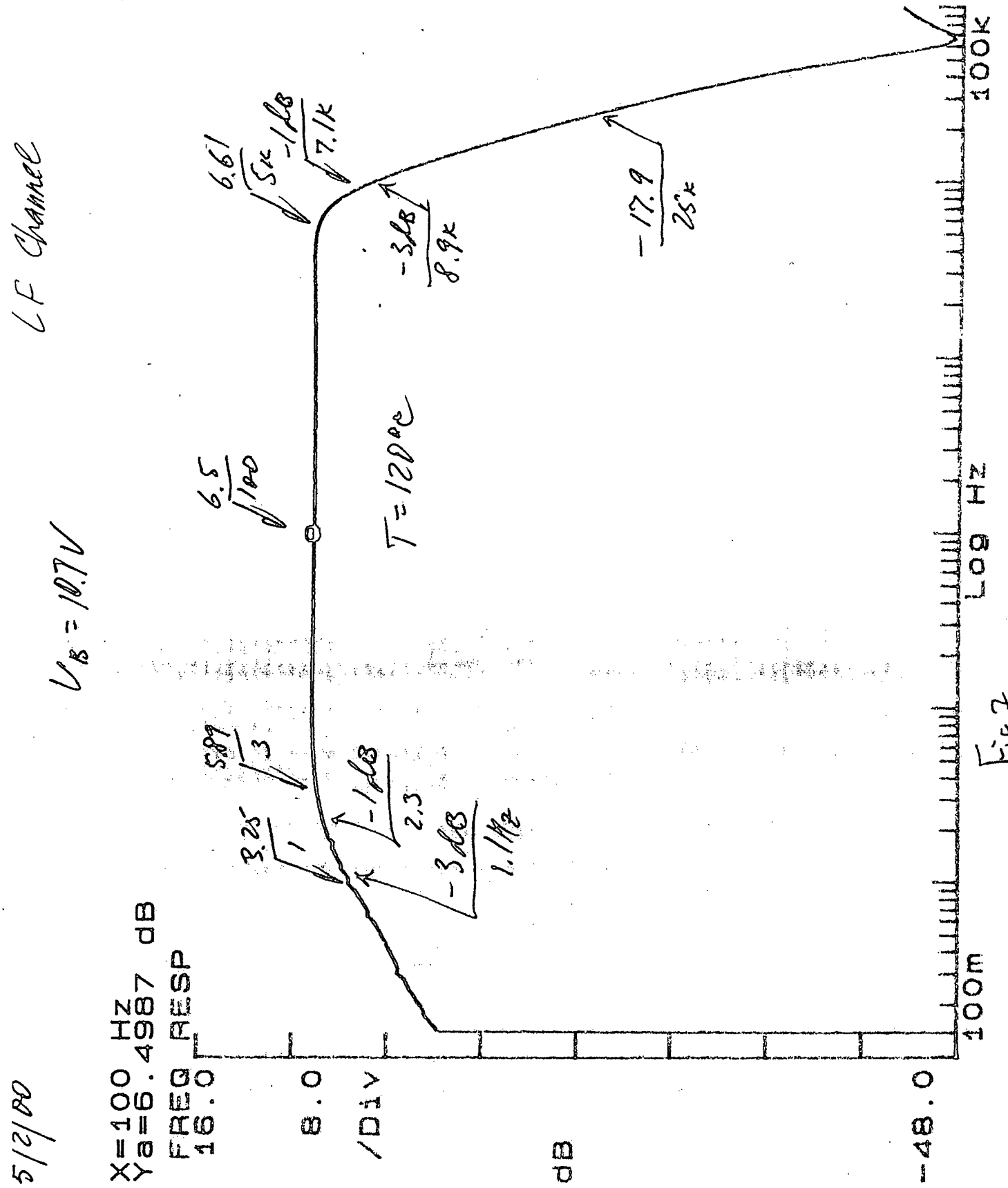
LF Channel
V_B = 10.7V
T = 120°C
6.5
100
6.61
5K
-1dB
7.1K
-3dB
8.9K
-17.9
25K
5.87
3
3.25
1
-1dB
2.3
-3dB
1.1Hz
X=100 Hz
Ya=6.4987 dB
FREQ RESP
16.0
8.0
/Div
dB
-48.0
100m
Log Hz
100K
5/2/00

Fig. 7

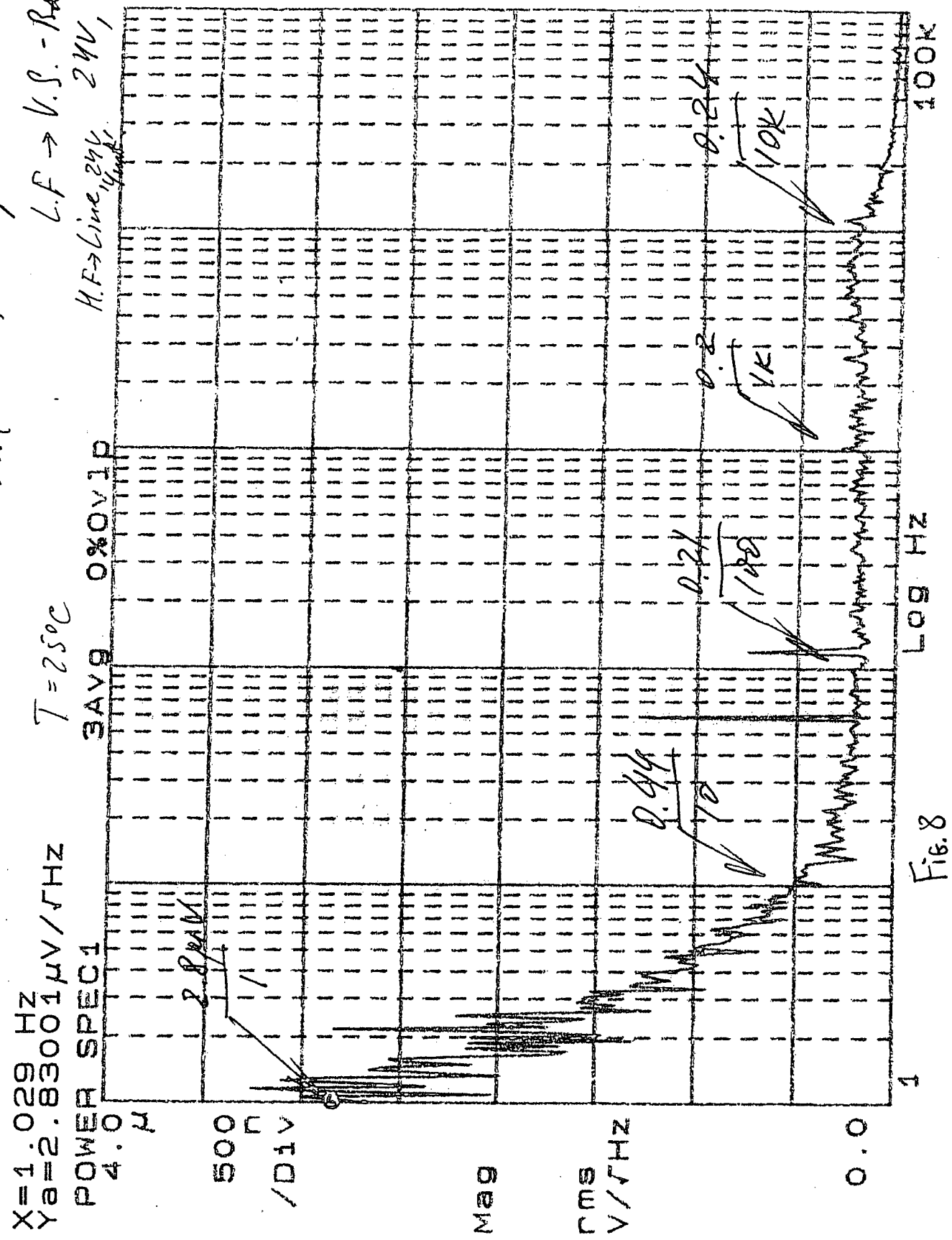
5/3/80
LF Channel
T = 25°C
3AVG
0%OVLP
POWER SPEC1
X=1.029 Hz
Ya=2.8300 µV/√Hz
4.0 µ
500 n
/DIV
Mag
rms
V/√Hz
0.0
1
Log Hz
100K
L.F → V.S. - Ruffle
H.F→Line 24V
2 µV, 4 µ

Fig. 8

TO8080" 096h2660

5/3/00

$V_{rms}(1\text{-}30k) = 15\,\mu V_{rms}$

$V_{rms}(1\text{-}100k) = 22\,\mu V_{rms}$

HF Channel

L.F. - Battery 24V, 4mA
H.F. - Line, 24V, 4mA

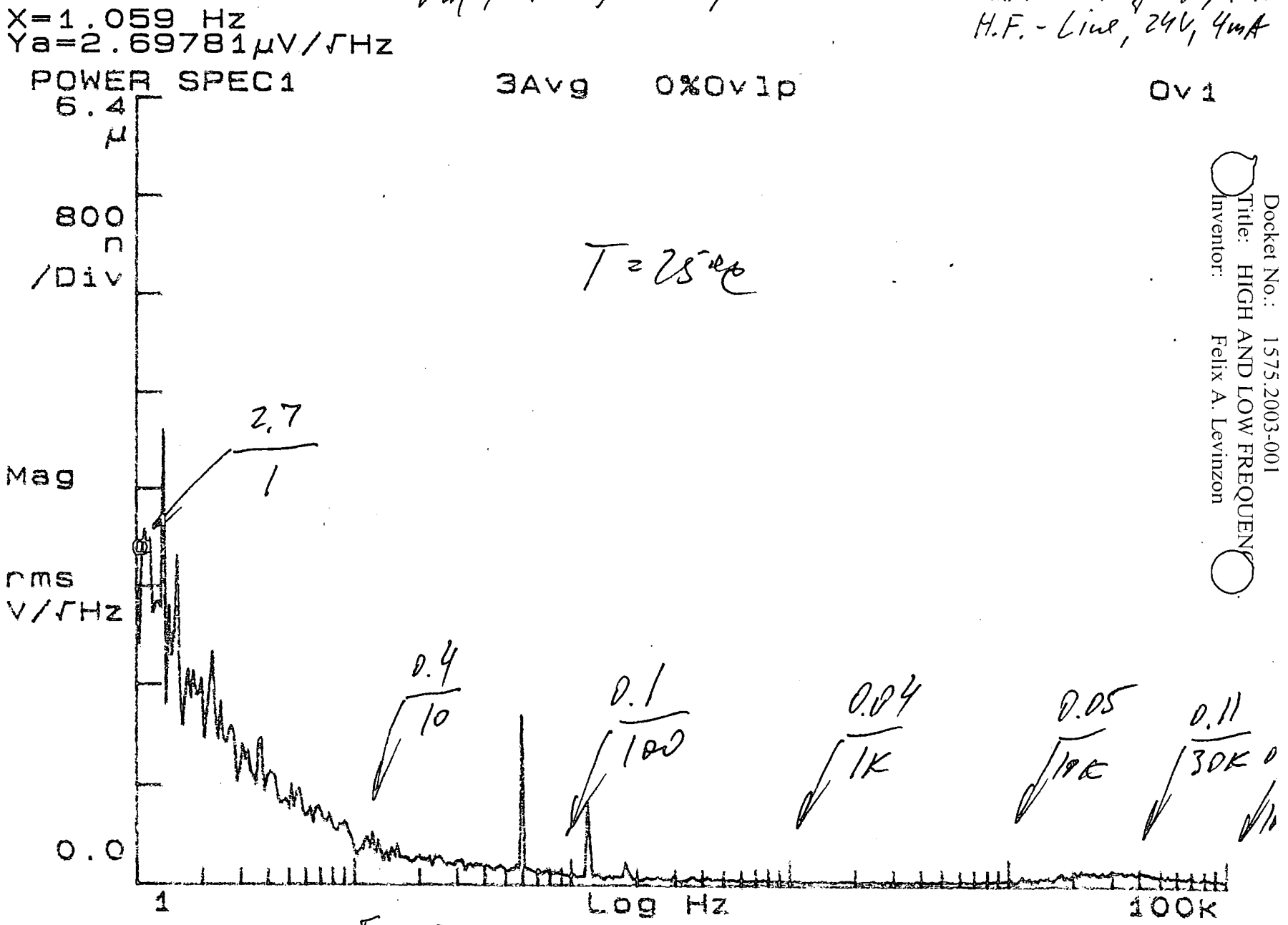

Fig. 9

Docket No.: 1575.2003-001
Title: HIGH AND LOW FREQUEN
Inventor: Felix A. Levinzon